COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Tidewater Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Mica Company of Canada, Inc.
Newport News, Virginia
Permit No. TRO-60208

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Mica Company of Canada, Inc. has applied for a Title V Operating Permit for its Newport News, Virginia facility. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact:_____ Date: December 14, 2005

Air Permit Manager:_____ Date: January 10, 2006

Deputy Director:_____ Date: March 20, 2006

FACILITY INFORMATION

Permittee

Mica Company of Canada, Inc.
900 Jefferson Avenue
Newport News, Virginia 23607

Facility

Newport News Mica Sheet Laying Facility
Mica Company of Canada, Inc.
900 Jefferson Avenue
Newport News, Virginia 23607

County-Plant Identification Number: 51-700-00019

SOURCE DESCRIPTION

NAICS Code: 327999 – Production of mica for use in various applications including insulation for appliances and in transformers.

Layout of Operations – There are two coating lines (CLs) and four pressing lines that combine to form the finished products.

Laying of Mica Splittings and Binder Application – Mica splittings, including raw mica is combined with a binder resin of various formulations and laid out on the belts of the continuous lay machines. The binder contains VOC's that are emitted from the binder/mica mixture during the initial laying-out of the mixtures and then also in the ovens.

Pressing of Mica Sheets and Final Processing – Following the CLs, the mica sheets are heat pressed by the hydraulic laminating presses. The mica sheet product may be further processed by additional curing in ovens, or milled and sanded to a precise thickness and could even be painted to specifications in some instances. Emission from the process include particulate from mica handling operations and VOC's/HAP's from the solvents used in the binders. Particulate emissions are controlled by cyclones since most of the particulate is 100 microns or larger. Currently there are no VOC controls at this facility.

The facility is a Title V major source of VOCs and HAPs. The facility is not subject to any New Source Performance Standard, but has been issued a New Source Review permit as a major source on August 24, 1998.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emission units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment					
B1	S1	Iron Fireman boiler, Model 301-H-250, 1967	9.8 mmBtu/Hr.	N/A	Unpermitted, existing unit.
Process Equipment					
C1	S2	Mica cleaning machine, 1982	173 lbs/hour	PM	8/24/98
CL1	1A, 1B, 1C, 1D	Coating station and oven, 1982	215 lbs/hour, total VOC, CL1 + CL2	N/A	8/24/98
CL2	2A, 2B, 2C, 2D	Coating station and oven, 1981	215 lbs/hour, total VOC, CL1 + CL2	N/A	8/24/98
P1-P4	None	Laminating presses, 1981	215 lbs/hour, total	N/A	8/24/98
M1	S3	Milling machines, 1974 and 1981	1755 lbs/hour, total	PM	8/24/98
ST1	none	Solvent storage (pre-1972)	5000 gallons/hour	N/A	8/24/98

EMISSIONS INVENTORY

A copy of the 2004 emission inventory generated from CEDS is attached. Emissions are summarized in the following tables.

	Criteria Pollutant Emission in Tons/Year				
Emission Unit	VOC	CO	SO_2	PM_{10}	NO_x
Total	93.81	0.25	0.14	0.02	0.38

Pollutant	Hazardous Air Pollutant Emission in Tons per Year
Methyl Ethyl Ketone (non-HAP)	0.4 (MEK removed from HAP List)
Methanol	41.4
Toluene	50.8

EMISSION UNIT APPLICABLE REQUIREMENTS – Fuel Burning Equipment Requirements (boiler B1)

Limitations

The process boiler, emission unit B1 was not included in the NSR permit issued August 24, 1998, and is considered exempt from NSR permitting. However, the following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

- 9 VAC 5-40-900 Existing Source Standard for Particulate Emissions; provides an emission limit based on the heat input at max capacity of the combustion device.

- 9 VAC 5-40-930 Existing Source Standard for Sulfur Dioxide Emissions; provides an emission limit based on the heat input at max capacity of the combustion device.

- 9 VAC 5-40-940.B. Existing Source Standard for Visible Emission: "Units may not emit greater than 20% opacity except for one six-minute period in any one hour of not more than 60% opacity (reference 40 CFR 60, Appendix A, Method 9).

- 9 VAC 5-40-20.E. Facility and Control Equipment Maintenance or Malfunction. "At all times, facility, including associated air pollution equipment, must be maintained and operated in a manner consistent with air pollution control practices for minimizing emissions.

Periodic Monitoring

The original permit of August 24, 1998 does not list any emissions limits for the boiler. However, standards for particulate, sulfur dioxide plus monitoring for opacity have been applied to the boiler in conditions III.A.1, III.A.2 and III.B.1. Without any fuel throughput limits or corresponding calculated emission limits for criteria pollutants, what is left includes particulate, visible emissions and sulfur dioxide standards for fuel burning equipment that apply to this emissions unit.

Demonstration of Expected Emissions from Unit B1:

- AP-42 lists the No. 2 fuel emission factor as 2 lbs PM per thousand gallons of oil.
- Max heat input = 9.8 mmBtu/hour x 1/0.138 mmBtu/gal = 71 gallons/hour fuel flow.
- Max PM emissions = 2 lbs/10^3 gals x 0.071 thou. gals/hour = 0.142 lbs-PM/hour
- 0.142 lbs is less than the standard of 5.9 lbs-PM per hour in condition III.A.1.

- AP-42 lists the No. 2 fuel oil emission factor as 142(S) lbs-SO_2 per thou-gals of oil.
- Max -SO_2 emissions = 142(0.5) x 0.071 thou-gals/hour = 5.04 lbs-SO_2 per hour
- 5.04 lbs/hour is less than the standard of 25.9 lbs/hour in condition III.A.2.

- Any existing fuel burning equipment unit shall not discharge any visible emissions which exhibit greater than 20% opacity, except for one six-minute period in any one hour of not more than 60% opacity. Failure to meet the requirements of this section because of the presence of water vapor shall not be a violation of this section. (9 VAC 5-40-940)

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include a logbook for recording any abnormal opacity observations, any Method 9

VEE required and corrective action taken to restore normal operations. Additional records are required to establish the fuel types to be burned in the boiler. The listing of the DEQ-approved pollutant-specific emission factors for the criteria pollutants emitted from the boiler along with calculations of these emissions.

Testing
The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA has authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting
The permit does not require any reporting, other than the 'Annual Compliance Certification' that the source must submit by March 1st for each calendar year per Condition VII.D.

Streamlined Requirements
The permit does not contain any streamlining of permit requirements.

Emission Unit Applicable Requirements – emission units C1, CL1, CL2, M1 and P1-P4.

Limitations
The following limitations are derived from the NSR permit issued August 24, 1998.

Particulate emissions controlled by cyclones; Units C1, CL1 and CL2; Condition 3 of August 24, 1998 NSR permit.

Facility limited to the throughput of 179 tons of Volatile Organic Compounds per year; Condition 4 of the August 24, 1998 NSR permit.

Annual throughput of raw mica limited to 1095 tons; Condition 5 of the August 24, 1998 NSR permit.

Visible emissions from the cyclones limited to 20% and 30% as a new/modified source standard; Condition 7 of the August 24, 1998 NSR permit.

Facility emissions limited by permit condition to the following:

VOC	215.0 lbs/hour	179.0 tons/year	9 VAC 5-50-260
Methanol	167.5 lbs/hour	179.0 tons/year	
MEK	215.0 lbs/hour	179.0 tons/year	
Toluene	215.0 lbs/hour	179.0 tons/year	

Condition 6 of the August 24, 1998 NSR permit.

Records will be kept of all emission data and operating parameters to demonstrate compliance with the permit. Records will include: throughputs of VOC's, HAPs and raw mica, visual evaluations and VEE's performed; Condition 8 of the August 24, 1998 NSR permit.

Reporting of malfunctions and excess emissions at the facility; Condition 11 of the August 24, 1998 NSR permit.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

- 9 VAC 5-50-80 New Source Standard for Visible Emissions; "units may not emit greater than 20% opacity except for one six-minute period in any one hour of not more than 30% opacity (reference 40 CFR 60, Appendix A, Method 9)".

- 9 VAC 5-50-380 Facility and Control Equipment Maintenance or Malfunction; "at all times, facility, including associated air pollution control equipment, must be maintained and operated in a manner consistent with air pollution control practices for minimizing emissions.

- 9 VAC 5-50-260 Standard for Stationary Sources; requires Best Available Control Technology (BACT).

- 9 VAC 5-40-3430A Standard for Volatile Organic Compounds; the filling standard requires a 60% or greater reduction in VOC emissions during tank filling operations.

Periodic Monitoring

The monitoring and recordkeeping requirements in Conditions 7 and 8 of the NSR permit have been modified to meet Part 70 requirements. The source will monitor for opacity emissions from the cyclone and fabric filter on a weekly basis and take appropriate action if necessary. Since it has been established, in the past, that the mica dust emissions have a gradation that is primarily above the PM10 range, the bulk of the particulate emissions should be considered to be non-PM10 emissions. Also, the VOC emissions from this source are uncontrolled and based solely on the use of the raw materials in the mica laying process. Therefore, all VOC's used in this facility are emitted without control and no monitoring of these emissions is necessary.

Demonstration of Expected Emissions from Units C1, CL1, CL2 and P1-P4:
DEQ approved emission factors for VOC = 1 lb emitted for 1 lb of throughput.

VOC	215.0 lbs/hour throughput x 1 lb per lb = 215.0 lbs/hour emitted
Methanol	167.5 lbs/hour throughput x 1 lb per lb = 167.5 lbs/hour emitted
MEK	215.0 lbs/hour throughput x 1 lb per lb = 215.0 lbs/hour emitted
Toluene	215.0 lbs/hour throughput x 1 lb per lb = 215.0 lbs/hour emitted

DEQ approved emission factors for VOC = 1 ton emitted for 1 tons of throughput.

VOC	179.0 tons/year throughput x 1 ton per ton = 179.0 tons/year emitted
Methanol	179.0 tons/year throughput x 1 ton per ton = 179.0 tons/year emitted
MEK	179.0 tons/year throughput x 1 ton per ton = 179.0 tons/year emitted
Toluene	179.0 tons/year throughput x 1 ton per ton = 179.0 tons/year emitted

Demonstration of Expected Emissions from the milling machine, Unit M1
Process weight rate = 0.88 tons/hour $E = 4.10 \times P^{0.67} = 4.10 \times (0.88)^{0.67} = 3.76$ lbs/hr.
Therefore, Max PM emissions = 0.88 tons x 2000 lbs/ton x 0.04% (uncollected dust)
Equals 1760 lbs/hour x 0.0004 = 0.7 lbs/hour, which is less than 3.76 lbs/hour allowable.

In Mica's operation, various combinations of the solvents are used together in specific binder formulas, as necessary, to produce a product with exacting specifications of flexibility, hardness and heat resistance. Any of the various solvents and HAPs used in the process will always be less than the VOC limit of 179.0 tons per year and also conform to the hourly limits in the permit. Since the output of VOC's can never exceed the input, the emissions are tied to a one to one ratio with the permit throughput limits. Therefore, the source can show compliance with the permit limits by demonstrating adherence to the permitted throughput limits. This relationship has been illustrated above.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing necessary to show compliance with the permit. These records will include: throughputs of VOC's, HAPs and raw mica, visual evaluations and VEE's performed. Records of the DEQ-approved calculations used to show compliance with Condition IV.A.9.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The permit requires a report of upset conditions and any excess emissions of HAPs that occur as a result of the upset condition. The source is required to send a statement that explains the particulars of the incident within fourteen days.

Streamlined Requirements

The permit does not contain any streamlining of permit requirements.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement NO. 3-2001".

This general condition cite(s) the Article(s) that follow(s):
Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources.

This general condition cites the sections that follow:
9 VAC 5-80-80. Application
9 VAC 5-80-140. Permit Shield
9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

J. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50.	Applicability, Federal Operating Permit for Stationary Sources
9 VAC 5-80-190.	Changes to Permits.
9 VAC 5-80-260.	Enforcement.
9 VAC 5-80-1100.	Applicability, Permits for New and Modified Stationary Sources
9 VAC 5-80-1790.	Applicability, Permits for Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000.	Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas]

U. Malfunction as an Affirmative Defense
The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

STATE ONLY APPLICABLE REQUIREMENTS

Following are the State-only applicable requirements included in this permit:

9 VAC 5, Chapter 50, Part II, Article 2: Standards of Performance for Odorous Emissions

9 VAC 5, Chapter 60, Part II, Article 5: Emission Standards for Toxic Pollutants

FUTURE APPLICABLE REQUIREMENTS

This facility is a major source of Hazardous Air Pollutants The EPA has not proposed a MACT for this source category as yet.

INAPPLICABLE REQUIREMENTS

The source has not identified any inapplicable requirements.

COMPLIANCE PLAN

The source does not have the requirement of a compliance plan.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation[1]	Pollutant Emitted (5-80-720 B.)	Rated Capacity (5-80-720 C.)
B2	Kewanee boiler	9 VAC 5-80-720 C.2.a.	N/A	3.313 mmBtu/HR
MF1	Mica feed belt system	9 VAC 5-80-720 B.	PM/PM10	N/A
PC1	Post-curing oven	9 VAC 5-80-720 B.	VOC, PM, PM10	N/A
ST2	Toluene storage tank	9 VAC 5-80-720 C.	N/A	3000 gallons
OV1	Temper oven	9 VAC 5-80-720 B.	VOC	N/A

[1]The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for viewing by the public.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Virginian-Pilot from January 31, 2006 to March 2, 2006.